

REMARKS

The claims now in the application are claims 1-7 and 10.

Claims 1-9 have been rejected under 35 USC § 112. This rejection is respectfully traversed. It is believed that the claims as now amended clearly overcome the rejection under 35 USC § 112 with no further comment.

Claims 1-3 and 7-9 have been rejected under 35 USC § 102(b) as being anticipated by Gembicki et al., US 4,036,784 (Gembicki). This rejection is respectfully traversed.

Gembicki discloses a preparation of a catalyst composition by admixing a peptizing agent and a refractory inorganic oxide (e.g., alumina, silica, zirconia, boria, magnesia, titania; see col. 2, lines 41-53) and water to produce a mixture, which is subjected to shear mixing and extrusion. The extruded product is useful with group VI B and group VIII metal components. The metal component may be impregnated onto the extrudate, or may be co-extruded with the extrudate (see col. 4, line 31 to col. 5, line 36). The coextrusion process is such that the catalyst is a homogeneous mixture of the refractory inorganic oxide and the group VI B and group VIII metal components.

In contrast to this, according to claim 1, a core/jacket catalyst molding is defined, in which a core containing metal oxides is surrounded concentrically by a jacket layer, comprising the catalytically active metal compounds. This can be achieved by manufacturing the core/jacket catalyst molding by co-extruding using two extruders, so that during the extrusion process a jacketing phase made from catalytically active

material concentrically surrounds a compact core made from support material (see specification, page 7, line 6 to page 10, line 11).

The use of two extruders to prepare a two-layer core/jacket catalyst molding is not disclosed by Gembicki.

Since claim 8 was not rejected over Gembicki, and all of the claims now include the limitations of claim 8, this rejection has clearly been obviated.

An important difference between the homogeneous product of Gembicki and the product of the instant claims should be emphasized. The here claimed product-by-process requires a smaller amount of catalytically active component since catalytically active components inside the catalyst core could not take part in catalysis.

Claims 1-3, 7 and 8 have been rejected under 35 USC § 102(b) as being anticipated by Tenten et al., US 6,169,214 (Tenten). This rejection is respectfully traversed.

Tenten discloses a coated catalyst of a hollow cylindrical carrier and a catalytically active oxide material applied to the outer surface of the carrier using a liquid binder to connect the catalytically active material and the carrier. The carrier is coated by dipping it into a suspension of catalyst, which is "absorbed onto the surface" (col. 13, line 53).

In contrast to this, according to the instant claims, a core/jacket catalyst molding is defined in which a compact core is surrounded concentrically by a jacket comprising the catalytically active compounds. The jacket layer is not put onto the core layer by

any kind of impregnation or absorption but by a process of coextruding both the core- and the jacket-material at the same time using the arrangement of two extruders, as has already been mentioned above (specification, page 7, line 6 to page 10, line 11).

The use of such an arrangement of two extruders to prepare a core/jacket catalyst molding having a core and a jacket concentrically surrounding it is not disclosed in Tenten. It is almost impossible to imagine that the process of Tenten could produce the type of catalyst layer that is produced by an extrusion process. Although in paragraph 6 of the examiner's action the examiner states that the reference teaches "the claimed catalyst components and the coextrusion thereof" it is not stated where in the reference coextrusion is disclosed and there does not appear to be any such disclosure.

Claims 1, 2, 4, 7 and 8 have been rejected under 35 USC § 102(e) as being anticipated by Thomson et al., US 6,297,185 (Thomson). This rejection is respectfully traversed.

Thomson discloses a catalyst comprising an electrically conductive ceramic substrate having at least one noble metal supported thereon (see col. 2, lines 63-65). In the only processes exemplified, the catalyst is prepared by calcining a homogeneous mixture of the carrier and the catalytically active compounds and reducing it. Therefore, the catalytically active compound is homogeneously distributed throughout the catalyst/carrier body.

The only processes even suggested by Thomson for applying the noble metal to

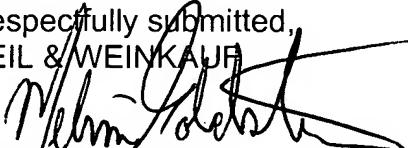
the surface of the substrate are "chemical precipitation, sputtering, evaporation, plasma vapor deposition, chemical vapor deposition, and photochemical decomposition" (see col. 4, lines 25-29).

No disclosure of extrusion of the jacket layer over the core component is present in Thomson, so there can be no disclosure of simultaneous extrusion using two extruders. Absent some evidence, or at least some explanation on the part of the examiner, there is not basis for assuming that the products of Thomson resemble those here claimed. It is incumbent upon the examiner to present an explanation based on logic and sound scientific reasoning. *Ex parte Levingood*, 28 USPQ2d 1300 (BPAI 1993).

In light of the foregoing amendments and remarks, it is believed that all of the examiner's rejections have been obviated and allowance of this application is respectfully solicited.

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COMPLETE LISTING OF ALL CLAIMS IN THE APPLICATION

1. (currently amended) A core/jacket catalyst molding with a core made from an inorganic support material and with a jacket made from a catalytically active material, obtainable by which is the product of the process of:

- coextruding an aqueous molding composition which comprises the support material of a precursor thereof, with an aqueous molding composition which comprises the catalytically active material or a precursor thereof, wherein an arrangement of two extruders is selected for the preparation process so that during the extrusion process a jacketing phase made from catalytically active material concentrically surrounds a compact core made from support material,
- then drying the coextrudate, and
- then calcining the dried coextrudate.

2. (original) A catalyst molding as claimed in claim 1, wherein the catalytically active material catalyzes the hydrogenation, dehydrogenation, oxidation, isomerization or polymerization, or addition reactions, substitution reactions or elimination reactions of organic substances, and comprises metals or metal compounds of the 5th to 8th transition group of the Periodic Table, of groups IB or IIB, of the lanthanoids, of the elements Sn, Pb, As, Sb, Bi, Se or Te, or a mixture of these.

3. (original) A catalyst molding as claimed in claim 1, wherein the support material used comprises oxides, hydroxides or carbonates of the elements B, Al, Ga, Si, Ti, Zr, Zn, Mg or Ca, or a mixture of these.

4. (original) A catalyst molding as claimed in claim 1, wherein the support material used comprises activated carbon, graphite, and inorganic nitrides or carbides, or a

mixture of these.

5. (original) A catalyst molding as claimed in claim 1, wherein the aqueous molding composition which comprises the support material or comprises a precursor thereof comprises a mixture made from

10-30% by weight of at least one water-soluble binder,

25-30% by weight of at least one inorganic support material or precursor thereof,

2-20% by weight of at least one peptizing agent,

1-5% by weight of at least one plasticizer,

20-60% by weight of water,

where the total amount of the ingredients gives 100% by weight.

6. (original) A catalyst molding as claimed in claim 1, wherein the aqueous molding composition which comprises the catalytically active material or comprises a precursor thereof comprises a mixture made from

10-30% by weight of at least one water-soluble binder,

0-20% by weight of at least one inorganic support material or precursor thereof,

10-40% by weight of at least one catalytically active material or of a precursor thereof,

2-20% by weight of at least one peptizing agent,

1-5% by weight of at least one plasticizer,

0.5-2% by weight of at least one lubricant,

20-60% by weight of water,

where the total amount of the ingredients gives 100% by weight.

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7. (original) A catalyst molding as claimed in claim 1, wherein the molding compositions used for the preparation process have essentially the same shrinkage behavior on drying.

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8. (canceled)

9. (canceled)

10. (new) A process for preparing a core/jacket catalyst molding, which comprises carrying out the following steps:

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- coextruding an aqueous molding composition which comprises the support material or a precursor thereof, with an aqueous molding composition which comprises the catalytically active material or a precursor thereof, wherein an arrangement of two extruders is selected for the preparation process, so that during the extrusion process a jacketing phase made from catalytically active material concentrically surrounds a compact core made from support material,
- then drying the coextrudate, and
- then calcining the dried coextrudate.